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Part II

Department of Labor

Mine Safety and Health Administration

Mine Rescue Teams; Minimum Requirements

DEPARTMENT OF LABOR

Mine Safety and Health Administration

30 CFR Part 49

Mine Rescue Teams

AGENCY: Mine Safety and Health Administration, Department of Labor.

ACTION: Final rule.

SUMMARY: This final rule requires the availability of mine rescue teams for all underground mines in the event of an emergency and is promulgated under the authority of sections 101 and 115(e) of the Federal Mine Safety and Health Act of 1977. The new standard establishes minimum requirements for mine rescue teams in the following areas: Team size and availability; rescue equipment, storage and maintenance; rescue notification plans; and team member experience, health, and training. The regulations also provide for alternative mine rescue capability for mines which are "small and remote" or those which have "special mining conditions."

EFFECTIVE DATE: These regulations shall be effective on July 11, 1981.

FOR FURTHER INFORMATION CONTACT: Frank Delimba, Chief, Division of Safety, Metal and Nonmetal Mine Safety and Health, Mine Safety and Health Administration, Room 717, Ballston Tower No. 3, 4015 Wilson Boulevard, Arlington, Virginia 22203, (703) 235–8646 or Herschel Potter, Chief, Division of Safety, Coal Mine Safety and Health, Mine Safety and Health Administration, Room 817, Ballston Tower No. 3, 4015 Wilson Boulevard, Arlington, Virginia 22203, (703) 235–1284.

EFFECT ON EXISTING REGULATIONS: A new Part 49 is established by this rule which provides for the availability of mine rescue teams at all underground mines and sets forth minimum requirements for such teams. Presently, mine rescue regulations exist for metal and nonmetallic underground mines at 30 CFR 57.4–67, 57.4–69, and 57.4–70. To avoid duplication and inconsistency with this new rule, the existing regulations will be revoked upon the effective date of these regulations.

SUPPLEMENTARY INFORMATION:

I. Background

The Federal Mine Safety and Health Act of 1977 (Act), Pub. L. 91–173 as amended by Pub. L. 95–164, applies to all coal, metal and nonmetal mines. In section 115(e) of the Act Congress required that:

> * * * the Secretary shall publish proposed regulations which shall provide that mine rescue teams shall be available for rescue and recovery work to each underground coal or other mine in the event of an emergency. The costs of making advance arrangements for such teams shall be borne by the operator of each such mine.

In compliance with Executive Order 12044 concerning improvement of government regulations and Department of Labor guidelines implementing the Executive Order (43 FR 22915), a draft of the proposed rule was made available for public comment prior to its publication in the **Federal Register.** Comments were received, given full consideration, and discussed in the proposed rule for mine rescue teams published (44 FR 1536, January 5, 1979) in accordance with section 101 of the Act, 30 U.S.C. 811. Interested persons were afforded 60 days to submit comments to the published proposed rule and to request a public hearing.

On May 22, 1979, MSHA published a Notice of Public Hearing which set forth the issues raised in response to the publication of the proposed rule, and identified the dates, time, and locations for six public hearings (44 FR 29692, May 22, 1979). During June and July of 1979, hearings were held in Charleston, West Virginia; Salt Lake City, Utah; Pittsburgh, Pennsylvania; Birmingham, Alabama; Pikeville, Kentucky; and St. Louis, Missouri. Transcripts of the proceedings were taken and made available for public inspection. Following the public hearings, interested persons were allowed until July 27, 1979, to submit supplementary statements or data. During this rulemaking process the Mine Safety and Health Administration (MSHA) has received and reviewed hundreds of written comments and statements from interested persons.

II. Discussion and Summary of the Final Rule

A. General Discussion

The legislative history for section 115(e) indicates that Congress considered the ready availability of a mine rescue capability in the event of an accident to be a vital protection to miners. Congress was concerned that, too often in the past, rescue efforts at a disaster site have had to await the delayed presence of a skilled but distant mine rescue team. In responding to the direction of Congress, the rulemaking process addressed, and the final rule reflects, the three essential elements of effective mine rescue by providing for: (1) The ready availability of teams to each underground mine; (2) requirements assuring that those teams be properly equipped; and (3) provisions establishing basic levels of skill and training for the team members.

MSHA's intent in promulgating this regulation has been to establish minimum requirements designed to assure that mine rescue teams shall be available for rescue and recovery work to each underground mine in the event of an emergency. MSHA recognizes that in many sectors of the mining industry rescue teams have been developed on a voluntary basis. This regulation is not intended to alter this traditional industry response. Based upon MSHA's experience in mine rescue matters, these regulations set forth only those requirements considered to be basic minimums. The history and tradition of mine rescue provides ample support for the expectation that many mines and teams will voluntarily exceed the minimum requirements of this regulation.

The thrust of a majority of the comments was for a more flexible final rule to better address the diversity of underground mining conditions, hazards, and operations. Many other comments suggested changes which were designed to simplify and clarify language of the proposed rule. In response, MSHA has made numerous changes to the standard as originally proposed to increase operator flexibility, simplify and clarify language, and delete unnecessary requirements.

MSHA has made a significant modification to the proposed rule in response to commenters who supported a provision to permit alternative mine rescue capability in limited instances. The MSHA notice of public hearing expressly solicited additional input on this issue (44 FR 29694, May 22, 1979). The final rule adds a new section (49.4) permitting alternative mine rescue capability for mines with "special mining conditions," while retaining the proposed rule section allowing alternative mine rescue capability for "small and remote mines". This new section for special mining conditions is based upon a recognition that certain underground mining operations present a significantly lower risk to the safety of underground miners. Operators who can establish the presence of the low-risk conditions are permitted to devise an alternative plan which assures a suitable rescue capability to that which would otherwise be required by the standard.

Other examples of flexibility are evident in the final rule's reduction of the length of recordkeeping periods for team training and physical examinations from two years to one, reduction of the required number of alternate team members from two to one; the waiver of the experience requirement and initial

training for individuals presently serving on a mine rescue team; and the enlargement of the pool of otherwise qualified individuals to serve on mine rescue teams through reduction of the underground experience requirements.

B. Section by Section Analysis of Final Rule

§ 49.1 Purpose and scope

This section explains that Part 49 implements the requirements of section 115(e) of the Federal Mine Safety and Health Act of 1977 (Act). Under section 115(e), Congress required that the Secretary publish regulations to provide for the availability of operator funded mine rescue teams for rescue and recovery work to each underground mine in the event of an emergency.

Commenters questioned whether the proposed regulations exceeded the legislative intent of section 115(e) of the Act that rescue teams be "available" by detailing minimum requirements for the size, training, equipment and health of the mine rescue teams.

All commenters recognized the inherently hazardous nature of mine rescue and recovery work and the need for professionalism in its performance. To assure effective and meaningful implementation of the statutory requirements, the regulation must establish minimum criteria so that those teams which present themselves in an emergency are fully capable of performing the rescue work. This goal is best achieved by requiring that the team members who are available in the event of an emergency be physically fit, properly trained, and appropriately equipped.

It should also be noted that the standards contained within Part 49 were also proposed pursuant to the Secretary's rulemaking and recordkeeping authority as provided for in sections 101, 103(h), and 508 of the Act. This authority allows the Secretary to promulgate improved mandatory health and safety standards for the protection of life and prevention of injuries in mines. Except for editorial changes designed to simplify and clarify, this section is promulgated as stated in the proposed rule.

§ 49.2 Availability of mine rescue teams

The proposed section provided that within six months after its effective date, or thereafter prior to the opening of any new mine, the operator of each underground mine have at least two mine rescue teams available at each underground mine for rescue and recovery work. This requirement could be satisfied through the use of a cooperative agreement or other contractual arrangement. The proposal also permitted operators of small and remote mines to submit alternative plans to MSHA as a means of achieving full compliance with the standard.

In the final rule, this section has been revised and reorganized. First, in direct response to the comments, MSHA has expanded the criteria for alternative compliance to include certain mines with "special mining conditions" as well as those considered "small and remote". These provisions for alternative compliance are contained in §§ 49.3 and 49.4 of the final rule. Section 49.2 as it appears in the final rule addresses the number of teams required, number of team members, experience requirements for team members (previously in § 49.6 of the proposal), and the definition of the term "available" as used in this standard. The effective date of the final rule is discussed in new § 49.10.

The purpose of these regulations is to assure that underground mine operators have properly trained and equipped personnel who are able to respond within a reasonable time in the event of an emergency. Commenters requested a definition of "available." To assure consistent application of the regulations, MSHA agrees that such a definition is necessary. Several commenters were concerned that this rule would result in a "fire department" approach to mine rescue work, requiring full time employees whose exclusive duties would be devoted to emergency readiness or other related activities. This is not MSHA's intention. In the final rule "available" has been defined to require that trained and equipped mine rescue teams be capable of presenting themselves at the mine site within a reasonable time after notification of an occurence which might require the services of a mine rescue team. This definition also provides that personnel will be considered available even though performing other regular work duties or in an off-duty capacity. Some comments expressed concern that the availability requirements in this rule would prevent teams from participating in mine rescue team contests or providing rescue services to another mine. Teams which are actually engaged in rescue operations cannot be expected to be "available" to perform rescue services elsewhere during those operations, and the availability requirement does not apply in such circumstances. In addition, in view of the important part that mine rescue contests play in the development of mine rescue skills and capabilities, mine rescue teams will not be required to be available while participating in these contests. However, mine operators should make every effort to assure that, during periods when regular mine rescue services are unavailable due to those circumstances, mine rescue capability can be provided as rapidly as possible in the event of an emergency. For example, it is recommended that MSHA District Manager be notified during such periods to assure expeditious coordination of mine rescue services should an emergency arise.

The final rule also provides that no mine served by a mine rescue team shall be located more than two-hours ground travel time from the mine rescue station with which the rescue team is associated. This is a change from the proposed rule which limited the location of the rescue station to 60 minutes ground travel time from the mine(s) served by the rescue station. MSHA expanded the time associated with the location of a mine rescue station to account for differences in terrain.

Commenters stated that, with respect to the rescue team requirement for new mines, MSHA should clarify the meaning of the phrase "prior to the opening of a new mine." MSHA agrees that the phrase needed clarification. Accordingly, more explicit language has been used. The final rule requires a mine rescue capability for "all existing underground mines, upon initial excavation of a new underground mine entrance, or the re-opening of an existing mine". This means that such a capability will be necessary at currently operating underground mining operations, upon initial excavation of a shaft or slope mine and the first cut for a drift mine.

Comments also stated that during the construction phase of the mine, independent contractors, and not the owner, lessee or other person who would operate, control or supervise the mine, should be responsible for providing the mine rescue capability. On this issue, MSHA's position is that it is essential to maintain an effective continuity of rescue capability during the construction and early production phases of the mining operation. Therefore, the operator who is an owner, lessee, or other person who operates, controls or supervises a mine should be responsible for complying with the requirements of this rule. In many instances, the number of independent contractors at the mine during this period will be too numerous, and their duration too indefinite, to provide an effective continuous rescue capability.

Comments questioned the necessity in the proposed requirements for two separate rescue teams with each having two alternate members. On this subject, public comment varied greatly. Several comments agreed that two teams would provide adequate service, others stated that two teams were excessive, while still others stated that three teams would be appropriate. In addition, commenters took the position that one alternate member for each team would be sufficient. In an attempt to maximize operator flexibility, and to reconcile current industry practice and varying State law requirements, MSHA has retained the two-team requirement. However, the final rule is changed to require one alternate member per team. MSHA's experience has shown that the two-team concept has been historically effective and has offered reliable rescue capability. Commenters also suggested that one alternate per team would provide sufficient back-up protection for the rescue team. MSHA agrees and believes that changing the rule to require only one alternate per team will provide operators with more flexibility in forming teams without jeopardizing the assurance of adequate mine rescue services.

Comments stated that the use of contractual and cooperative agreements could result in legal difficulties which might hinder the effectiveness of a mine rescue organization. They stated that formal contractual agreements should not be required, suggesting instead the use of verbal agreements and/or declarations to assist. Other comments stated that operators need only provide evidence of the agreement, rather than the agreement itself. These commenters noted the tradition of voluntary mine rescue work and stated that, even in the event of a contractual or cooperative agreement, team members could not be compelled to respond to an emergency. In using the term "contractual or cooperative agreements" in the proposed rule, MSHA did not intend to create or imply a legal obligation or guarantee on the part of the organization providing rescue services to actually send team members underground in any particular situation. The agency also did not intend that any such agreements warranty that "satisfactory results" be achieved once underground, or that persons be otherwise held accountable for specific conduct when in mine emergency situations. This concept is not changed in the final standard. The law and these regulations provide only that properly equipped and trained teams be available. Accordingly, MSHA seeks written evidence that an arrangement exists for mine rescue teams to appear at a mine during an emergency. Once the mine rescue teams are at the mine, these rules do not attempt to control the decisions that are made or the result achieved. Unless otherwise prescribed by the standard, the actual details of any arrangements such as logistics, cost or other matters are freely negotiable between the parties and need not necessarily be in writing. All operators who choose cooperative or other arrangements as a method of assuring rescue capability should do so with the full understanding of the voluntary nature of mine rescue work. The history of mining disasters reveals that if the lives of miners or other persons were threatened, mine rescue teams have always responded without hesitation. MSHA respects this tradition and expects that this type of response will continue.

Some commenters discussed the extent to which State teams could be used to help provide the mine rescue capability. They noted that in some instances, the State is only responsible for furnishing the equipment and training, while team members are actually employees of the mine operator. MSHA understands this, and to maximize the availability of mine rescue services, such arrangements will be permitted. Therefore, State teams can be used to satisfy the requirements of this rule, as long as such teams are trained and equipped according to the requirements of this rule.

With respect to the experience necessary for membership on a rescue team, the proposed rule contained a provision that all members and alternates shall have been employed in an underground mine for a total of at least one year within the three years prior to becoming a team member. In addition, surface miners who worked regularly underground would be considered employed in an underground mine. Commenters stated that these requirements were too restrictive, particularly for small mines and new mines. Specifically, operators of small mines stated that they would be unable to find sufficient personnel to meet the one year experience requirement. They noted that the limitation on experience to either underground work only or surface miners regularly working underground would preclude many qualified, specially skilled employees, such as electricians and hoist operators, from becoming team members. Therefore, although the final rule retains a requirement for one year of underground experience as a prerequisite to being eligible for mine rescue work, it has been changed so that the one year's experience requirement can be satisfied if it has occurred within the five years prior to becoming a team member. MSHA believes that this change will allow operators more flexibility in recruiting members, while at the same time assuring that only persons sufficiently familiar with underground work will serve on mine rescue teams.

The proposed provision allowing surface miners whose work regularly takes them underground to be considered qualified for team membership has been retained. This should enlarge the pool of potential mine rescue team members. With respect to the issue of surface miners qualifying for underground experience, some commenters urged MSHA to clarify that this would be solely for the purpose of determining eligibility for mine rescue teams. The final rule makes this clarifying change. With respect to the inability of small operators to recruit members, new § 49.3 allows operators of small and remote mines to submit plans for alternative compliance.

Many commenters stated that there should be a "grandfather clause" which would permit persons who are currently on mine rescue teams to be exempt from the one year experience requirement. MSHA agrees. The final rule has been changed to reflect a waiver of the one year underground experience requirement for miners who are on a rescue team on the effective date of this rule.

This section also requires that each operator of an underground mine shall provide MSHA with a statement describing the mine's method of compliance with this Part. The statement shall disclose whether the operator has independently provided mine rescue teams or entered into an agreement for the services of mine rescue teams. The name of the provider and the location of the services are to be included in the statement. A copy of the statement shall be posted at the mine for the miners' information. At mines where a miners' representative has been designated, the operator is also required to provide a copy of the statement to the miners' representative.

§ 49.3 Alternative mine rescue capability for small and remote mines.

Section 49.2(b) of the proposed rule provided that operators of small and remote mines could submit alternative plans for assuring a mine rescue capability. In the final rule, MSHA has expanded this provision and included it in a new section. The final rule also contains specific factors which will be

considered by MSHA District Managers in approving alternative plans for operators of small and remote mines.

The intent of this section of the final rule is to establish the best possible rescue response available under the circumstances which is appropriate to the underground mining conditions at each mine. Although small and remote mines are not statistically less hazardous than larger or non-remote mines, small and remote mines are distinguished by their size and location which may effectively limit the operator's ability to establish and equip two full mine rescue teams.

In the final rule, MSHA retained the alternative plan provision for small and remote mines because of a recognition that underground mines which are both small and remote face unique problems in providing for the availability of mine rescue teams. Some commenters stated that to increase flexibility in providing mine rescue capability, the term "small and remote" should be changed to "small and/or remote". According to these commenters, the presence of either characteristic should allow operators to establish an alternative plan. However, it is MSHA's opinion that smallness or remoteness alone should not be a sufficient criterion for permitting alternative rescue capability since such mines would be capable of establishing mine rescue teams. For example, small mines which are located close to either an established mine rescue team and station or to other underground mines could join in a cooperative arrangement to provide rescue services. In addition, remotely located mines which are not small are capable of establishing their own teams.

Many of the comments on the proposed rule urged MSHA to define the terms "small and remote." In the notice of public hearing, MSHA agreed that the terms needed defining and encouraged testimony on this issue (44 FR 29694). In defining the terms for the final rule, MSHA has determined that to be considered small and remote, the total underground employment of the operator's mine at any surrounding mine(s) within two hours ground travel time of the operator's mine must be less than 36. Under the definition, the number of miners employed on each shift in a multi-shift mine will be added together to derive at total.

The definition for the term "small and remote" applies only to this Part 49. These definitions are not intended to apply to or be a source of interpretational guidance where the terms "small" or "remote" appear in other sections of the Act, Code of Federal Regulations, or MSHA publications.

Comments relative to the number of miners employed at small and remote mines varied, ranging from mines employing as few as 20 persons underground to those employing as many as 75. In determining a specific underground employment figure for a small and remote mine, MSHA evaluated the record and found public testimony very helpful in delineating some of the difficulties which would be encountered by operators of small and remote mines in attempting to develop their own mine rescue teams. For example, based upon the comments and MSHA's own experience, in a typical small and remote mine, there will be a number of miners who: will not meet the experience and physical requirements in this rule; would not be amenable to volunteer rescue work; would be in administrative or management positions which may prevent them from serving on teams; or might have personal or family reasons which would preclude them from team membership. In addition, the mines within this category might be subject to high labor turnover and limited labor supply because of their isolated location or the nature of mining techniques being used. If any of these conditions are present, an already limited pool will be reduced. It is important to note that MSHA recognizes that these mine operators may have the same safety risk as large mines. In deciding on a definition for small and remote mines, MSHA felt that because of the administrative and other limitations which might be placed upon the applicant pool in these mines, it would be necessary to have a pool of at least three times the size of the 12 person general requirement from which to draw qualified members. MSHA believes that where the underground employment of the operator's mine and the underground employment of mines within two hours ground travel time of the operator's mine total less than 36, it could be very difficult to establish two, six-person teams.

A critical element in determining whether a mine is small and remote is the proximity of other underground mines or existing rescue teams and stations. MSHA solicited testimony on the remoteness issue. A commenter suggested that a mine which is located more than 100 miles from a mine with a mine rescue team or some other mine rescue capability should be considered remote. In using two hours ground travel time as the radius to determine remoteness, MSHA's definition is consistent with the comment. In instances where a small mine is found to be clustered within two hours ground travel time of other small mines, those mines will be able to jointly develop their own teams where their total underground employment equals or exceeds 36.

Where an operator has a mine which is unable to qualify for "small and remote," but because of unique circumstances can not meet the specific requirements of § 49.2 (availability of mine rescue teams), the MSHA District Manager should be notified immediately. The agency will then review the individual situation of the mine with the operator and a representative of the miners (if one has been designated). On a case by case basis, MSHA will seek to tailor appropriate remedies for such uniquely situated mines.

Some commenters raised an issue with respect to the role of MSHA teams in assisting operators to satisfy their obligations under this rule. Although MSHA does have personnel trained in mine rescue, their role is to provide support to MSHA at the scene of a mine emergency. This role is consistent with the language of section 103(j) of the Act, which allows the Secretary, in his discretion, to take appropriate action in the supervision and direction of rescue and recovery activities. This role for MSHA is also consistent with the express language of section 115(e), which requires that the operator bear the responsibility and costs for making advance arrangements to provide for mine rescue teams.

Underground mines which can qualify within the defined class as being both small and remote may submit an application for alternative mine rescue capability to the MSHA District Manager for the district in which the mine is located, for review and approval. No special form is required for submission of an application under this section.

The items of information required to be submitted in the application under this section are designed to disclose the particular characteristics of the small and remote mine seeking alternative compliance. With this information the operator of the underground mine, the miners, and MSHA can work together to formulate an appropriate rescue capability within the guidelines set forth in the section. Generally, this process will entail a look at the type of operation involved, an analysis as to the practicality and usefulness of taking intermediate steps to protect lives until fully trained and equipped teams can arrive, and an individual review to determine the best possible rescue

capability the applicant mine can develop.

The final rule requires several pieces of information from the applicant operator; each element is important to building an essential data base for the District Manager's evaluation of the operator's application for alternative compliance. The application is required to contain statements as to: the number of miners employed underground at the mine on each shift; the distances from the two nearest mine rescue stations; the total underground employment of mines within two hours ground travel time of the operator's mine; the mine's fire, ground, and roof control history; the mine's established escape and evacuation plan, an evaluation by the operator of the usefulness of additional refuge chambers to supplement those which may exist; the number of medically qualified and experienced miners willing to volunteer for mine rescue team service; the operator's alternative plan for assuring a suitable mine rescue capability; and other relevant information about the underground mine which may be requested by the District Manager.

Disclosure of the number of miners employed underground at the mine on each shift provides critical demographic information about the underground workforce. As the underground employment of the operator's mine and the underground employment of mines within two hours ground travel time of the operator's mine approaches 36, the operator's ability to develop an optimum rescue capability should improve.

The information on the distances from the two nearest mine rescue stations is required to identify the locations of the closest rescue stations. MSHA stands ready to assist operators in identifying mines and mine rescue teams and stations which are located near them. Paragraph (c)(4) requires inclusion of the mine's fire, ground, and roof control history in the application. MSHA is aware that 30 CFR Part 50, dealing with accidents, injuries, illnesses, employment and production in coal, metal, and nonmetallic mines, may already provide some of the information required in this section of the application. Duplication of effort is not intended. In satisfying this requirement, the operator may provide copies of accident reports relating to fire, explosion, and ground or roof control incidents at the mine. The operator may also summarize the findings of reports already filed. The intent is to review these aspects of the mine's history as part of the process of developing a suitable rescue capability.

The purpose of requiring the operator to submit an established escape and evacuation plan, with an evaluation of the usefulness of providing additonal refuge chambers, is to provide an opportunity to review whether possible improvements in these areas could enhance the chances of survival for miners until trained and equipped teams can arrive. MSHA recognizes that an escape and evacuation plan is already required under 30 CFR 57.11–53 and 75.1101–23. To avoid duplication, the applicant need only reference the date of the current plan where the District Manager is in possession of a current copy. Although escape and evacuation plans are reviewed under the regulations referred to above, this supplemental review of the plans may generate ideas for additional protection of miners trapped in small and remote mines until complete rescue services can arrive. MSHA is also aware that existing regulations for refuge chambers are contained in 30 CFR 57.11–50, 57.11–52, and 75.1500. The inclusion of this and other information in the application is not meant to suggest that changes will necessarily be mandated. The purpose is to allow a proper assessment of the individual circumstances of the small and remote mine, as was advocated by a considerable number of commenters.

The application also requires the operator to state the number of medically qualified and experienced miners at the mine who are willing to volunteer for mine rescue teams. In some instances the pool of qualified volunteers may be sufficient to establish one or two teams, or to establish teams with less than the full complement of members, which could perform rescue and recovery work until reserve assistance arrives.

Upon examining the particular characteristics of the underground mine, the operator is required to devise a suitable mine rescue capability. As stated earlier, the objective to be attained is the establishment of the best possible rescue capability available under the circumstances, which is also appropriate to the underground mining conditions at the applicant mine. MSHA stands ready to assist operators in this task. After a review of the submitted plan, the District Manager may request other relevant information about the operator's mine.

The completed application is to be posted at the mine. Where a miners' representative has been designated, the operator is also required to provide the representative with a copy of the application. Congress intended that miners be afforded a more active role in matters of direct concern to their safety and health, and their experience and knowledge of the mine make them an ideal resource in the development of the alternative mine rescue capability. In determining whether to approve the operator's alternative plan, the District Manager will consider comments submitted by, or on behalf of, any affected miner. In addition, the District Manager will evaluate the individual circumstances of the small and remote mine and make a determination as to whether the alternative mine rescue plan provides a suitable rescue capability in light of the information contained in the application.

The final rule requires the approved plan to be adopted by the operator and a copy of the plan posted at the mine for the miners' information. Where a miners' representative has been designated, the operator is also required to provide the representative with a copy of the approved plan. Appropriate MSHA mine emergency telephone numbers are to be included in each approved plan.

The operator has a duty under this provision to notify MSHA of material changes in the information submitted in the application. For example, if the underground workforce within the two hour ground travel time expands beyond the definition of small and remote, or if closer mine rescue teams become available, the operator's ability to provide a mine rescue capability will have materially changed. Paragraph (h) of this section provides that an approved plan for alternative mine rescue capability can be revoked by MSHA for cause, when it is determined that a condition or factor has changed which would materially alter the operator's mine rescue capability. No revocation of an approved plan will occur until after the operator has had an opportunity to be heard before the appropriate District Manager. Where an application is denied, or an approved plan is revoked, the District Manager will provide the reason for such action in writing to the operator. The operator may appeal the decision of the District Manager by writing to the Administrator for Coal Mine Safety and Health or Metal and Nonmetal Safety and Health, as appropriate.

§ 49.4 Alternative mine rescue capability for special mining conditions.

This is a new section. It provides that operators of mines with special conditions can submit alternative plans for assuring a mine rescue capability. This section also sets forth specific criteria which will be used by MSHA District Managers in approving such plans. The new section was added in

response to the great number of comments suggesting that the rule reflect greater flexibility to accommodate the diversity of underground mining conditions. Applications to provide alternative mine rescue capability from operators of mines with special mining conditions are to be submitted to the appropriate MSHA District Manager for review and approval. No special form is required for submission of an application under this section.

At the initial stage of the rulemaking process, comments to a draft of the proposed rule suggested that the criteria for an alternative plan should be expanded beyond the proposed rule's provision for small and remote underground mines. These comments were reflected in the proposed rule and MSHA specifically solicited comments on this issue in both the proposed rule and notice of hearings (44 FR 1536, January 5, 1979; 44 FR 29694, May 22, 1979). Many commenters stated that certain mining conditions and situations present a significantly lower risk of entrapment in an emergency to underground miners which would justify an alternative to the mine rescue team requirements contained in the proposed rule. To allow for maximum flexibility in the implementation of this rule for all segments of the mining industry, MSHA has included such a provision in the final rule.

Comment and testimony from the mining industry was widespread relative to the types of mining conditions and situations which might warrant alternative mine rescue capability. A history of mining disasters reveals that in most instances they are caused by mine fires or explosions. With this in mind, MSHA requires that operators demonstrate that certain conditions are present in the mine before alternative compliance can be considered under this section. Each of the conditions relate to factors tending to either: Reduce the likelihood of the occurrence of a hazard requiring the use of a mine rescue team; increase the likelihood that individuals will be able to effectuate self escape; or assure that conventional surface rescue services will be adequate. These conditions are also reflective of the differences in types of minerals being mined and the manner in which they are mined. Specifically, the mine must have (1) multiple adits or entries; (2) a noncombustible substance and nonexplosive atmosphere; (3) multiple vehicular openings to all active mine areas sufficient to allow fire or rescue vehicles full access to all parts of the mine in which miners work or travel; (4) roadways or other openings which are not supported or lined with combustible materials; (5) no history of flammable gas emission or accumulation, and the mined substance shall not have a history of flammable or toxic gas problems; (6) plugged any reported gas or oil well or exploratory drill hole to within 100 feet above and below the horizon of the ore body or seam.

If these conditions are present, the mine would generally be easily accessible and present a lower risk of the occurrence of a hazard related to gaseous substances, fires and explosions and to entrapment, poor ventilation, and roof falls. These conditions would also tend to facilitate self-escape. A survey of mines with these conditions reveals that the most common types of situations requiring emergency assistance are minor roof falls, equipment fires and vehicular accidents which can effectively be handled by conventional surface methods. MSHA believes that under these circumstances, alternative compliance might be justified.

Each application for alternative compliance under this section shall contain: A detailed explanation of the special mining conditions; the number of miners employed underground at the mine on each shift; the distances from the two nearest mine rescue stations; the operator's mine fire history; the operator's established escape and evacuation plan; the operator's alternative plan for assuring that a suitable mine rescue capability is provided at all times when miners are underground; and other relevant information about the underground mine which may be requested by the District Manager. With this information, the operator of the underground mine, the miners, and MSHA can work together to develop an appropriate rescue capability within the guidelines of this section.

It is important to note that mines which can qualify under this section can be distinguished from other underground mines in that they may present a significantly lower risk to miners of entrapment in an emergency. Although many commenters urged MSHA to include this provision for lower risk underground mines, they all agreed that even where special mining conditions exist, some rescue capability is needed to assure adequate protection for miners. In the notice of public hearing, MSHA solicited comment with respect to the alternative methods which would be used by operators of mines with special mining conditions to assure the availability of rescue services. Based upon the comments and MSHA's own experience, alternative methods of compliance might include the availability of: Local fire departments, rescue squads, ambulances, trained rescue personnel, or other rescue services. In addition, the operator is required to provide MSHA with the mine's escape and evacuation plan. However, to avoid duplication, operators who have filed current plans with MSHA (in accordance with 30 CFR 57.11–53 and 75.1101–23) need only cite the date the plan was submitted.

MSHA believes that this new provision is directly responsive to the comments stating that certain underground mining conditions do not require the type of mine rescue services set forth in § 49.2. MSHA believes that the approach adopted in this section will allow operators of mines with special mining conditions the flexibility needed to develop a rescue capability most appropriate for their mines, and at the same time, provide adequate rescue protection for workers in these mines.

New paragraph (e) of this section provides that a copy of the operator's application for alternative compliance must be posted at the mine and, where a miners' representative has been designated, provided to the representative. As mentioned in the discussion of small and remote mines, MSHA believes that because of the increased role granted miners in matters affecting their safety and health by the 1977 Act, they should be provided an opportunity to review the operator's application for alternative compliance. In making their decisions, MSHA District Managers would then be able to consider any pertinent information submitted by miners or their representatives. The District Manager's decision to approve an application will be based upon a evaluation of the data presented by the operator, the operator's proposed alternative plan, and other relevant information coming to the District Manager's attention. The District Manager will use this information to determine whether the alternative plan provides a suitable rescue capability which is appropriate to the individual characteristics of the mine and its workforce.

New paragraph (h) requires that an operator shall keep MSHA apprised of all changes related to information included in his application. Paragraph (i) provides that the appropriate MSHA District Manager may deny an application for alternative compliance under certain circumstances. This paragraph further provides for the

revocation of an approved plan if MSHA receives pertinent new information or determines that condition or factor has changed which would alter the operator's mine rescue capability. No revocation of an approved plan will occur until after the operator has had an opportunity to be heard before the appropriate District Manager. Where an application is denied, or an approved plan is revoked, the District Manager will provide the reason for such action in writing to the operator. The operator may appeal the decision of the District Manager by writing to the Administrator for Coal Mine Safety and Health or Metal and Nonmetal Safety and Health, as appropriate.

§ 49.5 Mine rescue station.

This section provides that each operator of an underground mine must designate in advance the location of the mine rescue station serving the underground mine, unless alternative mine rescue capability is permitted under §§ 49.3 or 49.4. In response to the comments, the final rule for this section reflects changes designed to allow greater flexibility in the concept of an acceptable mine rescue station.

Under the proposed rule a provision for a mine rescue station appeared in § 49.8. The proposed rule envisioned a facility which would be adequate in size to conduct classes, and be equipped with hot and cold running water, illumination, heating devices and telephone. The station was to be located not more than 60 minutes ground travel time from the mines served by it, although an exception existed for remotely located mines. The proposed rule also would have required that rescue stations be offset from mine openings to protect them from explosion, while a separate subsection asserted the Secretary's right to inspect the stations.

The final rule alters many of the provisions of the proposed rule, while retaining its basic concept. The primary purpose of the mine rescue station is to provide a safe and readily available place of storage for the equipment used by mine rescue teams in the event of an emergency. Under the final rule, equipment may be stored in a free standing mine rescue station, at the mine site, or at an affiliated mine. Any of these storage sites may be designated as the mine rescue station. The essential feature of the station is that it be a central repository for the storage of critical equipment which provides a proper storage environment. This concept is extremely important and necessary to avoid the possible delay and confusion which could result if equipment were to be stored in several different locations. In keeping with the primary purpose of a mine rescue station, MSHA agrees with the comments that the rescue station need not also be a classroom facility. MSHA also wishes to clarify that the final rule does not require that the rescue station be a facility which is staffed on a 24-hour-a-day basis.

The proposed rule contained requirements that the rescue station be provided with hot and cold running water, illumination, and heating devices; each utility serving a specific safety-related function: Water, to allow for equipment cleaning; illumination for visibility; and heating devices to protect the equipment from damage due to low temperatures. However, MSHA agrees with the comments stating that these utilities need not necessarily be present in rescue stations to achieve the goal of a proper storage environment for the ready use of emergency equipment. Cleaning, which may be necessary to keep equipment in good working order, need not be performed at the rescue station. Illumination, while necessary, may be provided from natural or mobile sources. Heating devices may not be needed in some climates. While conditions and climates will vary, it is important in all instances that the rescue equipment be appropriately protected and serviced. Flexibility in providing for a proper storage environment has been attained with the final rule's general requirement in § 49.6(b) (Equipment and maintenance) that mine rescue equipment be properly stored and maintained in a manner which will assure readiness for immediate use. Therefore, the mandatory inclusion of specific utilities has been deleted from the final rule. Proper storage and equipment readiness may require that mine rescue stations be offset from any mine openings where the risk of damage from explosion exists.

The purpose of the proposed rule's requirement for a telephone in the mine rescue station was to provide a means for notifying a mine rescue team of an emergency. This was deleted since the mine emergency notification plan (required under § 49.9 of the final rule) already covers this subject.

Finally, the proposed rule's express statement of the right of the Secretary's authorized representatives to inspect the designated mine rescue station is retained as part of the Secretary's general authority to inspect under section 103(a)(4) of the Federal Mine Safety and Health Act of 1977. Inspection is essential to properly evaluate compliance with this rule.

§ 49.6 Equipment and maintenance requirements.

Under the proposed rule, the required equipment for mine rescue teams and stations and the maintenance of that equipment were treated separately under §§ 49.3 and 49.4. In the final rule, these closely related subjects have been consolidated into one section.

The proposed rule provided that certain enumerated pieces of equipment were to be stored at a mine rescue station. Under the final rule the broadening of the definition of a mine rescue station allows equipment to be stored in a centralized location which may be at the mine site, mine rescue station, or at an affiliated mine. The purpose of this requirement is to assure that rescue efforts not be delayed as a result of equipment being stored in several different locations. The specific centralized location should be known to all who use it.

Under the final rule, certain paragraphs contained in proposed § 49.3 (equipment and maintenance) were retained completely, while other paragraphs were modified, reduced, or deleted. The proposed rule's requirements for at least six self-contained oxygen breathing apparatus per team with a minimum of two hours capacity each and equipment to test such apparatus were retained completely, and appear under § 49.6(a)(1) of the final rule. The proposed rule also required that each mine rescue station be equipped with either two oxygen indicators or two flame safety lamps, and with a portable mine rescue communication system. The final rule retains each of those equipment requirements. The vast majority of the commenters expressed agreement with MSHA as to the need for each of these items of rescue equipment.

Several modifications of equipment requirements were made in the final rule. The proposed rule provided that each mine rescue team be equipped with seven permissible cap lamps and a charging rack. The final rule requires six cap lamps to be consistent with the reduction in § 49.2(b) from two alternate rescue team members to one for each team. MSHA recognizes that cap lamps are already required under 30 CFR 57.17–10 and 30 CFR 75.1719–4. Duplication is not intended and the intent of retaining this requirement is to assure that a sufficient number of charged cap lamps are present to support a team arriving for an emergency. Where it can be demonstrated that the mines served by a rescue team already have the required

extra charged cap lamps, MSHA will not separately require additional cap lamps.

Sections § 49.3(b) (1) and (2) of the proposed rule set forth a specific list of required gas detectors. Commenters to these paragraphs felt that some types of underground mines would not need each of the specified detectors. MSHA agrees, and accordingly the final rule has been changed to provide in § 49.6(a)(6) that each mine or mine rescue station shall be equipped with two gas detectors which are appropriate for each type of gas which may be encountered at the mine(s) served. This modification allows greater flexibility to accommodate the diversity of underground mining conditions. The intention is to require gas detectors which are appropriate for the type and location of underground mine involved. Two factors would determine the "appropriate" detectors: one, gases commonly associated with the mined substance, such as methane in coal and salt mines; and two, gases that have been detected at a particular mine, even if that gas is not usually associated with the mined substance. Common experience will supply the answer in most instances. For example, all "gassy" mines need methane detectors, and all mines would require CO detectors as that gas would be present where any mine fire was involved.

Section 49.3(b)(4) of the proposed rule would have required an oxygen pump suitable to the type of breathing apparatus used by the rescue teams. Commenters submitted that a less costly "cascade system" could also be employed for recharging oxygen bottles in some instances. MSHA agrees that a cascade system is a feasible alternative to an oxygen pump where the pressure of the bottles to be charged does not exceed 2400 psi. The final rule permits cascading as an alternative where that method is compatible with the breathing apparatus used. Cascading is not considered to be a compatible alternative where it cannot fully recharge the apparatus used; in those instances the oxygen pump will be required.

The proposed rule's provision for a portable supply of air or oxygen in § 49.3(b)(5) was retained with one minor modification and appears in § 49.6(a)(2) of the final rule. The modification clarifies that the portable supply may not only be of liquid air, liquid oxygen, or pressurized oxygen, but also may be a supply of O_2 generating or CO_2 absorbing chemicals. The supply must be sufficient to sustain each team for six hours while using the breathing apparatus during rescue operations.

Section 49.6(a)(9) of the final rule modifies the proposed rule by requiring only "necessary" spare parts and tools for repairing the breathing apparatus and communication system. Commenters expressed concern that the proposed rule's requirement for a "supply" of spare parts was too vague. Mine rescue teams may look to the manufacturer's recommendations as a guideline for determining the necessary spare parts and tools.

Section 49.3(a)(2) of the proposed rule would have required one extra oxygen bottle for each self-contained compressed oxygen breathing apparatus. MSHA agrees with the comments that it is unnecessary to require more than one extra fully charged oxygen bottle for each six apparatus. Other equipment requirements contained in this section adequately assure sufficient additional oxygen supplies and the units of the alternate team members are ample to provide adequate reserve protection should a malfunction occur. Accordingly, the final rule reduces this requirement to one extra fully charged oxygen bottle for every six self-contained breathing apparatus.

Several items of equipment contained in the proposed rule were deleted from the final rule. The proposed rule's requirement for self-rescuers was deleted since existing standards require the devices and because they are designed for evacuation use only, not entry. Similarly, the proposed rule's requirements for a stretcher, blanket, and first aid kit were deleted as they are presently covered under 30 CFR 57.15–1 and 30 CFR 75.1713–7. The proposed rule also set out a brief list of required team tools and marking accessories. The final rule deletes those items. It is expected that teams will exercise their best judgment with regard to the acquisition of individual tools and marking accessories considered as necessary and appropriate to the conduct of proper mine rescue operations.

The final rule deletes the proposed rule's requirement for a self-contained oxygen resuscitator. While the device is of value in certain situations, it could not be used in the contaminated atmosphere likely to exist in a mine rescue setting. However, when rescued personnel are brought to the fresh air base, oxygen resuscitating capability would be provided from sources already available, such as extra apparatus or the unused capacity of devices worn by rescue team members.

Section 49.3(c) of the proposed rule required operators to establish, in advance, a transportation plan to get the rescue teams to mines serviced. The final rule retains this requirement, but it has been transferred to § 49.2(d).

Section 49.4 of the proposed rule, dealing with the maintenance of mine rescue apparatus and equipment, was consolidated into § 49.6(b) of the final rule. This paragraph requires that the rescue apparatus and equipment be stored and maintained in a manner which assures readiness for immediate use. It also requires that a trained person inspect and test the equipment at least every 30 days and maintain a record of the inspection and testing dates. In order to avoid unnecessary and burdensome record keeping requirements MSHA has reduced the required record keeping time for this paragraph from two years to one.

§ 49.7 Physical requirements for mine rescue team.

This section requires physical examinations for mine rescue team members. Prospective members are to be examined within 60 days of starting initial training, while current team members are to receive an annual physical examination. The standard by which a physician is to evaluate a person's ability to serve on a mine rescue team is whether the person is physically fit to perform mine rescue and recovery work for polonged periods under strenuous conditions. The final rule provides that the certifying physical examination shall be recorded on MSHA form 5000–3, and kept on file at either the mine or mine rescue station. This form, which has been in use for some time as a voluntary submission, has been revised in accordance with the requirements of this section.

In a further effort to provide flexibility for operators, the final rule expands the time period for the initial examination from 30 to 60 days. It also will permit team members who require corrective eyeglasses to serve, provided the eyeglasses can be worn securely within an approved facepiece. Contact lenses will not be permitted, since there is evidence that they may become lodged above the eye due to pressure in the facepiece of approved breathing apparatus. This could be harmful to the wearer and also pose a hazard to other persons under emergency conditions.

Under the proposed rule certain enumerated medical conditions would have precluded an individual from serving as a team member. These conditions included: seizure disorder; perforated eardrum; hearing loss; high blood pressure; impaired vision; heart disease; hernia; major back surgery; absence of a limb or hand. Although the final rule retains all of the listed conditions except major back surgery,

the presence of any condition does not automatically disqualify a miner from team service. Major back surgery was deleted as a condition of consideration because of the wide variations in this condition, and the likelihood of complete rehabilitation. The final rule requires only that the examining physician consider the conditions in determining whether the individual is capable of performing mine rescue work. This change in the final rule reflects MSHA's agreement with the comments received that the ultimate decision for determining physical qualification for mine rescue team service should rest with the examining physician.

§ 49.8 Requirements for training of mine rescue teams; instructors, and records of training.

The proposed section provided minimum training requirements for team members and alternates, the methods for approving instructors, and recordkeeping requirements.

The purpose of this section is to assure that mine rescue teams will be properly trained in all phases of mine rescue work, including all conditions that might be encountered in the event of an actual emergency. Generally, commenters recognized and supported the need for training, but questioned MSHA's proposed method for attaining this need.

The most frequently raised criticism of this section was that the training requirements were excessive, duplicative of MSHA's Part 48 training regulations, and would result in unnecessary recordkeeping and paperwork. In addition, comments stated that the regulation should include a provision waiving the requirement for initial training for those individuals who currently are on rescue teams and hold MSHA or state certification in rescue training. Commenters also stated that the required hours would necessitate shift splitting and that only initial and refresher training was needed.

The final rule retains the initial training requirement but provides for a waiver of the requirement for those miners who are presently on a mine rescue team. Such persons would already be familiar with the use, care and maintenance of the selected breathing apparatus. Although comments questioned the amount of time required for the initial training, the 20 hours proposed by MSHA remains in the final rule. Based upon its experience in teaching the initial training course and reviewing existing course material, MSHA believes that this is the minimum amount of time in which new rescue team members can become sufficiently familiar with the use, care, and maintenance of selected mine rescue breathing apparatus. It should be noted that MSHA considers the specified amount of training to be minimum requirements; operators are free to provide more if they find it necessary.

The proposed requirement for a separate advance mine rescue training course has been deleted. However, the substance of such a course has been included as a part of the annual refresher training. Comments stated that MSHA's initial and advance mine rescue courses should be published to allow for adequate public input. At this time, MSHA is in the process of developing these courses, and when they are available, MSHA will solicit public input.

There were many comments related to the particular types of training required. Several commenters questioned the duration and frequency of the annual refresher training. In the final rule MSHA has modified the annual refresher training requirement to allow the operator more flexibility in determining both the types and schedule of training best suited for the team members. Commenters objected to the 10-hour separate course in the use, care, capabilities and limitations of auxiliary mine rescue equipment and stated that this training should be given as a part of the initial or advanced training. In support of their argument, they stated that the time required for this training would vary, due to differences in types and quantities of auxiliary equipment. MSHA agrees that this training can be integrated into other training and therefore, the 10-hour separate course for auxiliary equipment has been deleted. The operator can provide the amount of training which he deems sufficient as a part of the annual refresher training. In addition, it should be noted that training in the use, care, capabilities and limitations of auxiliary mine rescue equipment is only necessary if the mine rescue team uses auxiliary equipment. Some comments requested a definition of auxiliary equipment. "Auxiliary equipment," is defined in 30 CFR Part 11.3 as:

> a self-contained breathing apparatus, the use of which is limited in underground mine rescue and recovery operations to situations where the wearer has ready access to fresh air and at least one crew equipped with approved self-contained breathing apparatus of 2 hours or longer rating, is in reserve at a fresh-air base.

Therefore, self-contained breathing apparatus with a rating of one hour or less would come under this definition.

Although MSHA has not reduced the amount of refresher training required, the final rule does permit, as mentioned earlier, training in advanced mine rescue procedures to be given as a part of the annual refresher training, instead of as a separate course. MSHA believes that since the advanced training is of the "practice" type and deals more with procedures to be used once the team goes underground in an actual emergency, it will be more appropriate if given with the the refresher training. In addition, this will allow the operator greater flexibility in scheduling training and more opportunity to develop a program to meet its individual needs.

Commenters suggested that it was unnecessary to require training to be rotated among the mines served by the team, stating that this would be disruptive; and, in the case of a cooperative arrangement, team members providing assistance to another mine would be accompanied by one or more persons familiar with that mine. MSHA agrees and believes that it is only necessary that team members be familiar with underground mining conditions. Training and practice in one's own mine will satisfy this requirement; therefore, the rotation provision has been deleted from the final rule.

Commenters stated that it would be impractical to require that all team members be totally familiar with mine ventilation, escape routes and refuge chambers of the mines served by the rescue team. Instead, they suggested that mine map training and training in the basic principles of mine ventilation would be sufficient. These comments stated that normally, in the event of an actual emergency, there are persons on the team who do have total familiarity with escape routes and mine ventilation. In addition, in the event of an emergency at a mine which participates in a cooperative arrangement, there will be persons at that mine who are totally familiar with escape routes and mine ventilation. Because of this, MSHA believes that a general familiarity by team members with mine map reading and ventilation procedures will be sufficient to permit them to perform adequately in that portion of the mine to which they are assigned. The final rule has been changed to reflect this concept.

Commenters stated that the requirement for cardiopulmonary resuscitation training (CPR) should be eliminated, since it would be most difficult if not impossible in a mine rescue situation to administer CPR, and to do so could be hazardous to miners and the rescue team personnel. Other comments supported some form of CPR training; from total training but not

certification for all team members, to only requiring CPR for the team member who is going to be stationed at the fresh air base. MSHA recognizes the difficulties which could be associated with the use of CPR in a mine rescue situation. MSHA has decided that it is not appropriate to require CPR in these regulations at this time. This requirement has been deleted in the final rule. However, MSHA will continue to explore the important issue of how best to assure that adequate emergency medical services are available at mines.

An issue was raised concerning the requirement in the proposed rule for first aid training. Comments stated that it was duplicative of MSHA's training regulations (30 CFR Part 48), since this training is currently required for all underground miners under those regulations. MSHA agrees. MSHA believes any resulting problems in this area of training can best be addressed on a mine-by-mine basis. Therefore, the requirement for first aid training is deleted in the final rule.

Commenters stated that the proposed provision requiring that the Training Center Chief be notified of the schedule for training was overly restrictive. They stated that this would be administratively burdensome since it would be extremely difficult for operators to pinpoint exactly when training might be given. In support of this, they stated that such factors as team member absences due to vacations and illnesses, equipment malfunctions, production slow downs, and other daily problems would affect the scheduling of training. MSHA agrees that it is important to maintain a flexible approach to training in order that it might be offered at particularly appropriate times to be of maximum benefit. It is, therefore, unnecessary to submit the schedule on an ongoing basis. However, in order to permit training center personnel to monitor all training classes, the final rule states that operators must provide MSHA, upon request, the schedule of upcoming training sessions.

Commenters suggested that instructors should have underground experience, but not experience in actual mine rescue work. Others stated that both underground experience and experience in mine rescue operations are necessary. It is generally recognized that mine rescue work is extremely complex and dangerous and that much of the responsibility for training team members in the correct procedures to be used while undergoing rescue operations rests with the rescue instructors. MSHA believes that because mine rescue training is geared to the hazards encountered in underground mines, for maximum effectiveness, instructors should have a minimum of one year's underground experience within the past five years. However, MSHA realizes that there may be persons, who by virtue of their special skills and training, are qualified to teach in their respective fields of expertise even if they have had no experience in mine rescue work. Where instructors are designated by MSHA, this underground experience requirement may be waived. A commenter also suggested that there should be a provision allowing current mine rescue instructors to be grandfathered. MSHA agrees.

To maximize the use of mine rescue instructor resources and to best utilize specially skilled persons, MSHA does not believe that instructors need actual experience in mine rescue work. The final rule is changed to require instructors to have underground experience. The final rule permits instructors to be approved by one of three methods: (1) Complete a program of instruction by the Office of Education and Training, MSHA; (2) Be designated by the Office of Education and Training, MSHA, based upon their qualifications and teaching experience; or (3) Be designated by the Office of Education and Training, MSHA, if they had been approved instructors prior to the effective date of this rule and had taught courses within the 24 months prior to the effective date. The latter method allows for the grandfathering of current mine rescue instructors. The final rule also provides that the Chief of the Training Center may revoke an instructor's approval for good cause. Under the rule, instructors are entitled to a written statement of reasons for the intended revocation and an opportunity to appeal the decision of the Training Center Chief to the Director of Education and Training.

Commenters stated that the provision requiring that records of training be kept on file at the mine for two years was unnecessary and overly burdensome. They stated that the inspector would be able to check the records as a part of his annual inspections and that it was unnecessary to keep such records beyond a year. MSHA agrees and this requirement has been reduced to one year in the final rule.

§ 49.9 Emergency notification plan and mine map.

This section requires each mine to have a plan of procedures for notifying the mine rescue teams in the event of an emergency. The notification plan is to be located at the mine office and a copy of the plan posted at the mine for the miners' information. This section also requires that a current map of the underground mine be readily available at the mine.

Proposed rule provisions that the agreement for the services of the mine rescue teams be posted, and that the notification plan be set out on an MSHA supplied form have been deleted from the final rule. The posting of the notification plan, as distinguished from the agreement, provides the essential information for affected parties. MSHA has determined that a special form for disclosing the plan is not necessary.

The proposed rule's provisions that mine maps be posted at the mine rescue station and updated every six months or whenever significant changes occurred have also been deleted. MSHA has determined that the existing regulations requiring mine maps, as found in 30 CFR 57.11–53 and 30 CFR 75.1200, are sufficient to satisfy the needs of rescue teams arriving at a mine in the event of an emergency.

§ 49.10 Effective date.

All provisions and requirements of this Part shall become effective on July 11, 1981. The proposed rule provided for a six month delayed effective date; however, comments stated that this was not enough time to allow operators or purchase necessary equipment, train team members and make necessary cooperative or other arrangements.

MSHA has conducted a preliminary survey of equipment manufacturers and has been informed that it will take approximately one year to manufacture enough equipment to satisfy the requirements of the rule. In addition, comments stated that it would be very difficult, in many instances, to recruit and train members for rescue teams within the six month time frame. Therefore, in response to public comment and the agency's own investigation, MSHA has included a delayed effective date of one year in the final rule. This will provide operators with sufficient time to comply with all of the requirements of the standard.

At the time of the effective date of these regulations, operators of underground mines will be required to have developed and have in place the rescue capability required under this Part 49. Team members are to be equipped and have completed the initial training course. Operators applying for alternative mine rescue capability under §§ 49.3 and 49.4 must have their plans approved and rescue capability in place and operational by the effective date of this rule.

In the Notice of Public Hearing, MSHA solicited comments as to potential duplication or inconsistency of regulatory requirements, created by this Part 49 and existing metal and nonmetal mine rescue standards. After reviewing these standards MSHA has determined that the metal and nonmetal mine rescue standards at 30 CFR 57.4–67, 57.4–69, and 57.4–70 are to be revoked effective on July 11, 1981.

Drafting Information

The principal persons responsible for preparing this final rule are: Patricia W. Silvey, Office of Standards, Regulations and Variances, Mine Safety and Health Administration; and William B. Moran, Division of Mine Safety and Health, Office of the Solicitor, Department of Labor.

Regulatory Analysis

It has been determined that a regulatory analysis is not required for this rule under the Department of Labor's final guidelines for implementing Executive Order 12044 (44 FR 5570, January 26, 1979). It is estimated that the first year costs for compliance with this rule will be approximately $38.1 million. This amount is based upon a projected need of approximately 800 additional mine rescue teams and 350 additional mine rescue stations in the coal industry and 90 additional teams and 50 additional stations in the metal and nonmetal industry, at a cost of approximately $28,500 per team and $16,000 per station. MSHA has reduced the costs which were associated with mine rescue stations in the proposed rule, since the final rule expands the definition of a mine rescue station to include less costly options. MSHA anticipates that operators will utilize those options for about half of the additional stations required. The total includes an estimated $300,000 for administrative and recordkeeping costs, and $6 million for costs related to alternative compliance. MSHA projects that the recurring costs of compliance will be approximately $6.5 million annually, since many of the first year costs represent one time capital outlays. MSHA has prepared an economic analysis of the requirements of this rule, with a full discussion of costs associated with each major acceptable alternative, which is available upon request.

Dated: July 3, 1980.

Robert B. Lagather,

Assistant Secretary for Mine Safety and Health.

1. A new Part 49 is added to Subchapter H, Chapter I Title 30, Code of Federal Regulations, as set forth below:

PART 49—MINE RESCUE TEAMS

Sec.

49.1 Purpose and scope.
49.2 Availability of mine rescue teams.
49.3 Alternative mine rescue capability for small and remote mines.
49.4 Alternative mine rescue capability for special mining conditions.
49.5 Mine rescue station.
49.6 Equipment and maintenance requirements.
49.7 Physical requirements for mine rescue team.
49.8 Training for mine rescue teams.
49.9 Mine emergency notification plan.
49.10 Effective date.

Authority: Sec. 101, 103(h), 115(e) and 508 of the Federal Mine Safety and Health Act of 1977 (Pub. L. 91–173, as amended by Pub. L. 95–164).

§ 49.1 Purpose and scope.

This Part implements the provisions of Section 115(e) of the Federal Mine Safety and Health Act of 1977. Every operator of an underground mine shall assure the availability of mine rescue capability for purposes of emergency rescue and recovery.

§ 49.2 Availability of mine rescue teams.

(a) Except where alternative compliance is permitted for small and remote mines (§ 49.3) or those mines operating under special mining conditions (§ 49.4), every operator of an underground mine shall:

(1) Establish at least two mine rescue teams which are available at all times when miners are underground; or

(2) Enter into an arrangement for mine rescue services which assures that at least two mine rescue teams are available at all times when miners are underground.

(b) Each mine rescue team shall consist of five members and one alternate, who are fully qualified, trained, and equipped for providing emergency mine rescue service.

(c) To be considered for membership on a mine rescue team, each person must have been employed in an underground mine for a minimum of one year within the past five years. For the purpose of mine rescue work only, miners who are employed on the surface but work regularly underground shall meet the experience requirement. The underground experience requirement is waived for those miners on a mine rescue team on the effective date of this rule.

(d) Each operator shall arrange, in advance, ground transportation for rescue teams and equipment to the mine or mines served.

(e) Upon the effective date of this Part, the required rescue capability shall be present at all existing underground mines, upon initial excavation of a new underground mine entrance, or the re-opening of an existing underground mine.

(f) Except where alternative compliance is permitted under § 49.3 or § 49.4, no mine served by a mine rescue team shall be located more than two hours ground travel time from the mine rescue station with which the rescue team is associated.

(g) As used in this part, mine rescue teams shall be considered available where teams are capable presenting themselves at the mine site(s) within a reasonable time after notification of an occurrence which might require their services. Rescue team members will be considered available even though performing regular work duties or in an off-duty capacity. The requirement that mine rescue teams be available shall not apply when teams are participating in mine rescue contests or providing services to another mine.

(h) Each operator of an underground mine who provides rescue teams under this section shall send the District Manager a statement describing the mine's method of compliance with this part. The statement shall disclose whether the operator has independently provided mine rescue teams or entered into an agreement for the services of mine rescue teams. The name of the provider and the location of the services shall be included in the statement. A copy of the statement shall be posted at the mine for the miners' information. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the statement.

§ 49.3 Alternative mine rescue capability for small and remote mines.

(a) If an underground mine is small and remote, an operator may provide for an alternative mine rescue capability. For the purposes of this part only, consideration for small and remote shall be given where the total underground employment of the operator's mine and any surrounding mine(s) within two hours ground travel time of the operator's mine is less than 36.

(b) An application for alternative mine rescue capability shall be submitted to the District Manager for the district in

which the mine is located for review and approval.

(c) Each application for an alternative mine rescue capability shall contain:

(1) The number of miners employed underground at the mine on each shift;

(2) The distances from the two nearest mine rescue stations;

(3) The total underground employment of mines within two hours ground travel time of the operator's mine;

(4) The operator's mine fire, ground, and roof control history;

(5) The operator's established escape and evacuation plan;

(6) A statement by the operator evaluating the usefulness of additional refuge chambers to supplement those which may exist;

(7) A statement by the operator as to the number of miners willing to serve on a mine rescue team;

(8) The operator's alternative plan for assuring that a suitable mine rescue capability is provided at all times when miners are underground; and

(9) Other relevant information about the operator's mine which may be requested by the District Manager.

(d) A copy of the operator's application shall be posted at the mine. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the application.

(e) In determining whether to approve an application for alternative compliance, the District Manager shall consider:

(1) The individual circumstances of the small and remote mine;

(2) Comments submitted by, or on behalf of, any affected miner; and

(3) Whether the alternative mine rescue plan provides a suitable rescue capability at the operator's mine.

(f) Where alternative compliance is approved by MSHA, the operator shall adopt the alternative plan and post a copy of the approved plan (with appropriate MSHA mine emergency telephone numbers) at the mine for the miners' information. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the approved plan.

(g) The operator shall notify the District Manager of any changed condition or factor materially affecting information submitted in the application for alternative mine rescue capability.

(h) (1) An approved plan for alternative mine rescue capability shall be subject to revocation or modification for cause by MSHA, where it is determined that a condition or factor has changed which would materially alter the operator's mine rescue capability. If such action is contemplated, the operator will be notified, and given an opportunity to be heard before the appropriate District Manager.

(2) If an application for alternative compliance is denied or revoked, the District Manager shall provide the reason for such denial or revocation in writing to the operator. The operator may appeal this decision in writing to the Administrator for Coal Mine Safety and Health or the Administrator for Metal and Nonmetal Mine Safety and Health, as appropriate, 4015 Wilson Boulevard, Arlington, Virginia 22203.

§ 49.4 Alternative mine rescue capability for special mining conditions.

(a) If an underground mine is operating under special mining conditions, the operator may provide an alternative mine rescue capability.

(b) An application for alternative mine rescue capability shall be submitted to the District Manager for the district in which the mine is located for review and approval.

(c) To be considered "operating under special mining conditions," the operator must show that all of the following conditions are present:

(1) The mine has multiple adits or entries;

(2) The mined substance is noncombustible and the mining atmosphere nonexplosive;

(3) There are multiple vehicular openings to all active mine areas, sufficient to allow fire and rescue vehicles full access to all parts of the mine in which miners work or travel;

(4) Roadways or other openings are not supported or lined with combustible materials;

(5) The mine shall not have a history of flammable-gas emission or accumulation, and the mined substance shall not have a history associated with flammable or toxic gas problems; and

(6) Any reported gas or oil well or exploratory drill hole shall be plugged to within 100 feet above and below the horizon of the ore body or seam.

(d) Each application shall contain:

(1) An explanation of the special mining conditions;

(2) The number of miners employed underground at the mine on each shift;

(3) The distances from the two nearest mine rescue stations;

(4) The operator's mine fire history;

(5) The operator's established escape and evacuation plan;

(6) The operator's alternative plan for assuring that a suitable mine rescue capability is provided at all times when miners are underground; and

(7) Other relevant information about the operator's mine which may be requested by the District Manager.

(e) A copy of the operator's application shall be posted at the mine. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the application.

(f) In determining whether to approve an application for alternative compliance, the District Manager shall consider:

(1) The individual circumstances of the mine operating under special mining conditions;

(2) Comments submitted by, or on behalf of, any affected miner; and

(3) Whether the alternative mine rescue plan provides a suitable rescue capability at the operator's mine.

(g) Where alternative compliance is approved by MSHA the operator shall adopt the alternative plan and post a copy of the approved plan (with appropriate MSHA mine emergency telephone numbers) at the mine for the miners' information. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the alternative plan.

(h) The operator shall notify the District Manager of any changed condition or factor materially affecting information submitted in the application for alternative mine rescue capability.

(i) (1) An approved plan for alternative mine rescue capability shall be subject be to revocation or modification by MSHA, where it is determined that a condition or factor has changed which would materially alter the operator's mine rescue capability. If such action is contemplated, the operator will be notified and given an opportunity to be heard before the appropriate District Manager.

(2) If an application for alternative compliance is denied or revoked, the District Manager shall provide the reason for such denial or revocation in writing to the operator. The operator may appeal this decision in writing to the Administrator for Coal Mine Safety and Health or the Administrator for Metal and Nonmetal Mine Safety and Health, as appropriate, 4015 Wilson Boulevard, Arlington, Virginia 22203.

§ 49.5 Mine rescue station.

(a) Except where alternative compliance is permitted, every operator of an underground mine shall designate, in advance, the location of the mine rescue station serving the mine.

(b) Mine rescue stations are to provide a centralized storage location

for rescue equipment. This centralized storage location may be either at the mine site, affiliated mines, or a separate mine rescue structure.

(c) Mine rescue stations shall provide a proper storage environment to assure equipment readiness for immediate use.

(d) Authorized representatives of the Secretary shall have the right of entry to inspect any designated mine rescue station.

§ 49.6 Equipment and maintenance requirements.

(a) Each mine rescue station shall be provided with at least the following equipment:

(1) Twelve self-contained oxygen breathing apparatus, each with a minimum of 2 hours capacity (approved under Subpart H of Part 11 of this title), and any necessary equipment for testing such breathing apparatus;

(2) A portable supply of liquid air, liquid oxygen, pressurized oxygen, oxygen generating or carbon dioxide absorbant chemicals, as applicable to the supplied breathing apparatus and sufficient to sustain each team for six hours while using the breathing apparatus during rescue operations;

(3) One extra oxygen bottle (fully charged) for every six self-contained compressed oxygen breathing apparatus;

(4) One oxygen pump or a cascading system, compatible with the supplied breathing apparatus;

(5) Twelve permissible cap lamps and a charging rack;

(6) Two gas detectors appropriate for each type of gas which may be encountered at the mines served;

(7) Two oxygen indicators or two flame safety lamps;

(8) One portable mine rescue communication system (approved under Part 23 of this title) or a sound-powered communication system. The wires or cable to the communication system shall be of sufficient tensile strength to be used as a manual communication system. These communication systems shall be at least 1,000 feet in length; and

(9) Necessary spare parts and tools for repairing the breathing apparatus and communication system.

(b) Mine rescue apparatus and equipment shall be maintained in a manner which will assure readiness for immediate use. A person trained in the use and care of breathing apparatus shall inspect and test the apparatus at intervals not exceeding 30 days. A record of inspections and tests shall be maintained at the mine rescue station for a period of one year.

§ 49.7 Physical requirements for mine rescue team.

(a) Each member of a mine rescue team shall be examined annually by a physician who shall certify that each person is physically fit to perform mine rescue and recovery work for prolonged periods under strenuous conditions. The first such physical examination shall be completed within 60 days prior to scheduled initial training. A team member requiring corrective eyeglasses will not be disqualified provided the eyeglasses can be worn securely within an approved facepiece.

(b) In determining whether a miner is physically capable of performing mine rescue duties, the physician shall take the following conditions into consideration:

(1) Seizure disorder;

(2) Perforated eardrum;

(3) Hearing loss without a hearing aid greater than 40 decibels at 400, 1,000 and 2,000 Hz;

(4) Repeated blood pressure (controlled or uncontrolled by medication) reading which exceeds 160 systolic, or 100 diastolic, or which is less than 105 systolic, or 60 diastolic;

(5) Distant visual acuity (without glasses) less than 20/50 Snellen scale in one eye, and 20/70 in the other;

(6) Heart disease;

(7) Hernia;

(8) Absence of a limb or hand; or

(9) Any other condition which the examining physician determines is relevant to the question of whether the miner is fit for rescue team service.

(c) The operator shall have MSHA Form 5000–3 certifying medical fitness completed and signed by the examining physician for each member of a mine rescue team. These forms shall be kept on file at the mine rescue station for a period of one year.

§ 49.8 Training for mine rescue teams.

(a) Prior to serving on a mine rescue team each member shall complete, at a minimum, an initial 20-hour course of instruction as prescribed by MSHA's Office of Education and Training, in the use, care, and maintenance of the type of breathing apparatus which will be used by the mine rescue team. The initial training requirement is waived for those miners on a mine rescue team on the effective date of this rule.

(b) Upon completion of the initial training, all team members shall receive at least 40 hours of refresher training annually. This training shall be given at least 4 hours each month, or for a period of 8 hours every two months. This training shall include:

(1) Sessions underground at least once each 6 months;

(2) The wearing and use of the breathing apparatus by team members for a period of at least two hours while under oxygen every two months;

(3) Where applicable, the use, care, capabilities, and limitations of auxiliary mine rescue equipment, or a different breathing apparatus;

(4) Advanced mine rescue training and procedures; as prescribed by MSHA's Office of Education and Training and;

(5) Mine map training and ventilation procedures.

(c) A mine rescue team member will be ineligible to serve on a team if more than 8 hours of training is missed during one year, unless additional training is received to make up for the time missed.

(d) The training courses required by this section shall be conducted by instructors who have been employed in an underground mine for a minimum of one year within the past five years, and who have received MSHA approval through:

(1) Completion of an MSHA or State approved instructor's training course and the program of instruction in the subject matter to be taught.

(2) Designation by the Office of Education and Training as approved instructors to teach specific courses, based on their qualifications and teaching experience. Previously approved instructors need not be re-designated to teach the approved courses as long as they have taught those courses within the 24 months prior to the effective date of this part. Where individuals are designated, the Office of Education and Training may waive the underground experience requirement.

(e) The Chief of the Training Center may revoke an instructor's approval for good cause. A written statement revoking the approval together with reasons for revocation shall be provided the instructor. The affected instructor may appeal the decision of the Training Center Chief by writing to the Director of Education and Training, MSHA, 4015 Wilson Boulevard, Arlington, Virginia 22203. The Director of Education and Training shall issue a decision on the appeal.

(f) Upon request from the Office of Education and Training, MSHA, the operator shall provide information concerning the schedule of upcoming training.

(g) A record of training of each team member shall be on file at the mine rescue station for a period of one year.

§ 49.9 Mine emergency notification plan.

(a) Each underground mine shall have a mine rescue notification plan outlining the procedures to follow in notifying the

mine rescue teams when there is an emergency that requires their services.

(b) A copy of the mine rescue notification plan shall be posted at the mine for the miners' information. Where a miners' representative has been designated, the operator shall also provide the representative with a copy of the plan.

§ 49.10 Effective date.

All provisions and requirements of this part shall become effective on July 11, 1981.

§§ 57.4–67, 57.4–59, 57.4–70 [Revoked]

2. Revocation of existing standards. Effective July 11, 1981, existing metal and nonmetal underground standards at 30 CFR 57.4–67, 57.4–59 and 57.4–70 are revoked.

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